UNITED STATES ARMS CONTROL AND DISARMAMENT AGENCY

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THE DIRECTOR

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MEMORANDUM FOR:

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Executive Secretary, Department of State

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Executive Secretary, Department of Defense

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Executive Secretary, Department of Energy

Mr. Paul Schott Stevens
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Executive Secretary, Central Intelligency Agency

RADM Joseph C. Strasser
Executive Assistant to the Chairman,
Joint Chiefs of Staff

SUBJECT: Testimony by Assistant Director Eimer for SSCI

Attached is the statement Assistant Director Eimer will present to the Senate Select Committee on Intelligency on the INF Treaty on January 29, 1988.

It is identical to the base verification briefing prevously cleared through the interagency process over the past two weeks.

William B. Staples
Executive Secretary

Attachment:
As stated

FOR OFFICIAL USE ONLY UNTIL RELEASED BY

THE SENATE SELECT COMMITTEE ON INTELLIGENCE

STATEMENT OF

DR. MANFRED EIMER

ASSISTANT DIRECTOR, BUREAU OF VERIFICATION AND INTELLIGENCE

THE U.S. ARMS CONTROL AND DISARMAMENT AGENCY

BEFORE THE

SENATE SELECT COMMITTEE ON INTELLIGENCE

ON

THE INF TREATY

January 29, 1988

INF TREATY VERIFICATION

Introduction

I would like to discuss INF verification in five segments.

1. Verification objectives.
2. Overall verification concept.
3. Key verification elements.
4. Implementation of verification tasks and measures.
5. Conclusions.

Verification Objectives

First, let me discuss the verification objectives.

From the outset of the negotiations, the President has insisted on very high standards for verification. Specifically, the US has had three basic verification objectives for the INF agreement:

- To ensure confidence in the agreement.
- To help deter Soviet violation of the Treaty by increasing both the likelihood of US detection and the difficulty to the Soviets of committing an undetected violation.
- To permit timely detection of Soviet violations so that we can take appropriate measures to protect US and allied security.

To achieve these objectives, we have developed the comprehensive verification concept and framework embodied in the INF Treaty.

The Overall INF Verification Concept

Let me now discuss the overall verification concept.

Verification is not an adjunct or after thought to this Treaty. Rather, the verification concept is woven throughout virtually every article of the Treaty. This is because the US designed its entire Treaty draft with verification in mind and insisted on negotiating verification aspects in parallel with, or as a part of, negotiating other aspects. Many of these verification aspects touched on sensitive issues on both sides so that some decisions were not made until the final stages of negotiations.

The INF Treaty regime is designed both to control the declared overt INF inventory and to make as complicated and costly as possible the acquisition of any covert illegal inventory. The bulk of the Treaty language focuses on the declared overt inventory.

The declared overt inventory is controlled by specific geographical and movement constraints and is confirmed by on-site inspection (OSI). The geographical constraints are based on a partitioning of the Soviet Union into limited areas where INF missiles systems are allowed, and a larger residual area where they are prohibited unless in announced transit. In

this context, we see the principal function of National Technical Means (NTM) as not to "count," but to detect any illegal system.

Destruction of the INF systems is observed and confirmed by US inspectors.

Covert forces could derive from either: 1) systems produced before the Treaty in excess of the declared baseline inventory or, 2) illegal systems produced covertly during or after the period of elimination. Maintenance of a militarily useful covert force is rendered difficult by the immediate flight test ban together with NTM search for illegal systems. The immediate flight test ban will render extremely risky flight testing, which is important for establishing the reliability of systems produced even from existing designs. Also, both NTM monitoring and the flight test ban will make very risky the exercising of militarily significant INF forces after the elimination period.

With this framework, our initial verification confidence will increase with time due to the aging and "enforced" inactivity of any possible covert missile systems.

Key Verification Elements

The key verification elements or "tools" are the following:

- Production and Test Ban.
- Continuous Portal Monitoring (including perimeter patrol).
- Restriction of INF Missiles and Launchers to Designated Facilities and Areas.

- o Deployment areas (DAs) and "Corrals."
- o Transit Notifications.
- o Elimination Procedures.
- o Baseline Inspection.
- o Short Notice Inspection of Active Missile Support Facilities and Operating Bases.

I will discuss each of these briefly.

o Production and Test Ban. Production of missiles, launchers, and stages is banned upon entry into force of the Treaty. Flight testing is also banned. The plant in Votkinsk that has assembled the SS-20 will be monitored by a continuous US on-site presence, which should ensure that SS-20s are no longer being produced there. Thus, the Soviets would be forced to turn to a covert assembly line if they sought to produce SS-20s. If they did so, they would need to "qualify" that covert line by testing the missiles or accept great risk through uncertainty in performance. However, such testing would be readily detectible by US NTM. The production ban, test ban, and continuous monitoring at Votkinsk act in concert to help deter cheating.

o Continuous Portal Monitoring (including perimeter patrol). For up to 13 years the US will have the right to station inspectors permanently outside any plant that assembles the SS-25 (or any missile that has one or more stages similar to a stage of the SS-20). Currently, the only such plant is in Votkinsk, which also was the assembly plant for the SS-20.

o Restriction of INF Missiles and Launchers to Designated Facilities or Areas. Missiles and launchers may be located only in designated facilities or areas except when in announced transit. This partitioning of the Soviet Union and basing countries into permitted and prohibited areas reduces the verification task to more manageable proportions. "Counting" would be accomplished chiefly by on-site measures at declared facilities and bases, small relative to the rest of the land mass of the USSR, East Germany and Czechoslovakia. In the remaining areas of these countries, the verification task is detection of any covert INF systems. Even one such missile or launcher detected in the prohibited area would be a violation.

o Deployment Areas (DAs) and "Corrals." During the reduction period, geographical restrictions will provide a verifiable basis for distinguishing deployed from non-deployed INF. Deployed intermediate range missiles (IRMs) are those located in specified areas where they may legally operate and exercise. Deployed short-range missiles (SRMs) are those located at their declared operating bases until they are "corraled" into special elimination facilities within 90 days.

o Transit Notifications. In order to help resolve ambiguity regarding whether or not an INF missile or launcher outside a DA or missile support facility is in legal transit or is an illegal system, the Treaty requires the sides to provide information on the departures, arrivals and specified points in between.

o Elimination Procedures. For missiles, launchers, support equipment, and support structures listed in the MOU, elimination is virtually synonymous with their physical destruction. The Elimination Protocol details procedures to achieve permanent destruction. In general, missiles may be destroyed by burning or demolition (or in the case of IRMs for a very limited period, launched); and launchers and launch-critical support equipment must be irreversibly altered so as to be incapable of transporting or launching IRMs.

Because of the small size and mobility of systems covered in the INF Treaty, elimination will be confirmed by on-site inspection.

In most cases, it would be impractical or impossible to destroy missile support facilities, deployment areas, and operating bases; instead, elimination means that all INF activities there will cease. To help verify this, the Treaty provides for two types of interior OSI:

1) "Close-out" Inspection. This is a one-time check of all facilities except missile production facilities to help ensure that all bases and support facilities have ceased any INF activity.

2) Short-notice Inspection at Formerly Declared Bases and Facilities. All facilities and bases eliminated and subject to the one-time close-out are also subject to

subsequent short-notice inspection to help deter the reactivation of former INF infrastructure to support a covert force. The Treaty provides for a quota of such inspections for ten years after global elimination.

o Baseline Inspection. A very detailed exchange of data, contained in the Treaty's Memorandum of Understanding (MOU) and initial data update within 30 days, establishes the baseline declarations against which subsequent compliance judgments will be made. The MOU is intended as a "snap shot" of the announced status of INF shortly before the Treaty was signed. In it, each side declared the number and location of each Treaty-limited item, technical details about these items, and other pertinent data. Data updates are required at approximately six-month intervals during the three-year reduction period.

The baseline inspections will confirm the overt inventory at declared facilities, and thereby encourages truthful Soviet declarations. The baseline inspections would force the Soviets to hold any illegal missiles at covert locations, thus potentially exposing them to US detection.

o Short Notice Inspections of Active Missile Support Facilities and Operating Bases. All support facilities (except missile production) are subject to short-notice inspections. A yearly quota of up to 20 such inspections may be conducted. These

short-notice inspections will help deter the Soviets from using the existing infrastructure to maintain and operate illegal INF systems.

Implementation: Verification Tasks and Measures

Now I'd like to move from the verification concept and elements to implementation via the key INF verification tasks and the specific measures for handling them. Some of the measures will be described in detail. They include:

- o Verifying the veracity of the initial Soviet declarations in the MOU and initial update.
- o Verifying compliance with numerical limits on missiles and launchers.
- o Verifying that all declared systems are eliminated as required.
- o Verifying compliance with the ban on production and flight-testing, (effective upon the Treaty's entry into force).

Let's examine the specific verification measures that can be used to accomplish these tasks.

1. Baseline Verification

US intelligence has devoted substantial monitoring resources to Soviet INF, especially the SS-20. Our resulting intelligence holdings were used to assess the Soviet MOU declarations.

Starting 30 days after the Treaty's entry into force, the US can conduct, over 60 days, inspections at 115 sites in the USSR, GDR, and Czechoslovakia, using up to 200 inspectors in teams of 10 people each. Subject to inspection are all INF missile support facilities except missile production facilities and all missile operating bases. The former category includes missile and launcher repair facilities, missile and launcher storage facilities, test ranges, and elimination facilities.

We do not expect actually to find discrepancies as the result of our inspections. Rather, we view these inspections as a means of encouraging truthful declarations in the first place, i.e., as a deterrent to cheating.

We must assume the Soviets could try to hide additional missiles covertly. Given the Soviet record of noncompliance, the relative small size and mobility of these systems, and the Soviet practice of maskirovka (concealment and deception), we should not rule out this possibility. Indeed, we will devote substantial monitoring resources to searching for any evidence of covertly-held INF.

2. Verification of Numerical Limits on Missiles and Launchers.

Verification of numerical limits is keyed to geographical restrictions, but these restrictions apply differently to the two major classes of INF systems -- IRMs and SRMs. Any missile or launcher detected outside declared areas and not in legal transit is a violation. The transit notifications described

earlier will help us distinguish legitimate transit from the operation of a covert INF system outside declared areas.

SRMs are defined as deployed if they are located at a missile operating base. All deployed short-range missiles and all launchers must be corralled in their separate elimination facilities within 90 days of entry into force. Non-deployed missiles need not be moved to corrals for 12 months. Elimination facilities for missiles and launchers must be at least 1,000 km apart. Once there, they may not leave, and all must be destroyed within 18 months of entry into force.

The advantages of this scheme for controlling deployed SRMs are two-fold. First, since all SRMs are taken out of deployment status in 90 days or less, there will be no overt deployments to count. Second, since missiles and launchers are segregated in corrals 1,000 km apart, and subject to OSI, these systems cannot be easily redeployed without our detection.

IRM reductions are more gradual, as required by military and political exigencies. IRMs must continue to exercise to remain a viable force until they are eliminated in three years. Deployment areas were devised to control and define deployment for verification. Deployment areas (DA) are designated areas within which IRMs and their launchers may operate and within which their operating bases are located. Every intermediate range missile or launcher within a DA is considered deployed regardless of its operational readiness.

We do not use NTM to actually "count" SS-20s in a DA at any given point in time. First, the areas are large. Second, both the Soviets and we must protect from observation mobile missiles in the field to prevent them from being easily targeted. Such protection for survivability in deployment areas is permitted by the Treaty.

Short-notice inspection has a major role with regard to non-deployed limits. Non-deployed systems are confined chiefly to storage, repair, and elimination facilities.

The key rules for the conduct of short-notice inspection are:

1) Inspections may be only within pre-specified boundaries, delineated in detailed site diagrams exchanged between the sides.
2) The inspectors have the right to inspect anything big enough to be or contain a Treaty-limited item.
3) The inspectors can patrol the perimeter of the site and inspect outgoing vehicles.
4) The burden of explanation is on the inspected party.

Equipment allowed for inspections include measuring and weighing devices, cameras, and radiation detection devices.

beginning immediately upon entry into force, the sides are forbidden to produce INF missiles or stages or to launch or flight-test the missiles.

The US has long been aware of similarities between the two-stage intermediate-range SS-20 missile and the three-stage SS-25 intercontinental-ballistic missile. Late in the negotiations, the Soviets revealed that the first stages for the two missiles, while not interchangeable, are very similar in external appearance. This posed a special problem for verifying a production ban. To ensure that the Soviets are not producing SS-20s in the guise of SS-25s, the US negotiated the right to maintain a long-term continuous monitoring presence at the gate of any plant which assembles the SS-25. This continuous monitoring right will last for 13 years if the Soviets continue to produce SS-25s or any other missile with a stage outwardly similar to the first stage of the SS-20. If the Soviets cease such production, the monitoring period would be shorter, but in no case less than three years after the Treaty enters into force.

The Soviet Union has assembled SS-25s and SS-20s at the same plant. That plant is at Votkinsk, approximately 600 miles northeast of Moscow. We have the right to implement the continuous portal monitoring at Votkinsk, 30 days after the Treaty enters into force. The key features are:

- Vehicles large enough to contain the SS-20 may exit only at one designated "portal," at which inspectors are posted.

- There may be only two other exits, each of which will be monitored by remote means, such as video cameras.
- The perimeter of the facility may be patrolled by inspectors to ensure that no incursions have occurred.
- Every vehicle exiting a portal may be weighed and measured to determine if it is capable of containing an SS-20. Vehicles incapable of containing such a missile will pass without further inspection.
- Any vehicle that is large and heavy enough to contain an SS-20, but is declared by the Soviets not to contain a missile, may be inspected. It is the responsibility of the Soviets to show that the vehicle does not contain a missile.
- Vehicles exiting the portal, which are declared to contain or could contain a missile, are subject to the following procedures:
  - -- The US may image the contents of each missile canister (e.g., by radiography).
  - -- The US may select eight canisters a year for the Soviets to open for interior viewing. As with radiography, the viewing procedures will enable us to distinguish an SS-20 from an SS-25 by verifying that the second stage of the SS-25 is in fact different in appearance from the second stage of the SS-20 as well as the presence of an SS-25 third stage. The two viewing means will serve as check and calibration, one means against the other.

As discussed before, the flight-test ban is designed to strengthen the production ban by making it very difficult, if not impossible, to qualify a covert assembly line. Verification of the flight-test ban will rely on highly capable NTM systems.

Over time, with the flight-test and training ban and the limited shelf life of solid propellant missiles, it will be very difficult, if not infeasible, for the Soviets to maintain a militarily-useful covert force.

4. Verify elimination of missiles, launchers and support equipment

The Protocol on Elimination contains detailed procedures to:

- Ensure complete and permanent destruction.
- Verify the number and type of items being eliminated.
- Verify the fact of destruction.

Specific procedures are prescribed for each type of item to be eliminated; thus, the protocol serves as a destruction manual. Missiles, launchers and support equipment are destroyed at special elimination facilities, where inspectors may observe the whole destruction process from start to finish. Alternatively, a quota of IRMs can be destroyed by launching in the first six months. Training equipment and support structures will be destroyed where they are located, and inspectors may observe the results of destruction after the fact.

Now, let's turn to some of the specific means by which INF systems will be destroyed. The SS-20 will serve as an example.

The Soviets must notify us 30 days before they begin destruction of INF systems, providing us information on the number and type, the elimination site, the location from which removed, and the point of entry for our inspectors. We are permitted 20 inspectors in the team that carries out the inspections.

Prior to the missiles' arrival at the elimination facility, the Soviets will remove their nuclear warhead and guidance packages. However, the necessary "reentry vehicle" (i.e., heat shield for the warhead) will be delivered to the elimination facility. The SS-20 missile is always contained in a "canister" which provides the missile's environmental control. Just prior to a missile's destruction, the US inspector may direct the Soviets to open this canister so that he may visually inspect its contents to ensure that an SS-20 is actually in it.

The Soviets have the option of destroying the SS-20 at the facility by burning its fuel or demolishing the missile. Any fuel, nozzles, or motor case surviving this process must be burned, crushed, flattened, or destroyed by explosion. The RV must also be destroyed, by crushing or flattening.

The transporter-erector-launcher will be stripped of its erection/launch device -- basically the hydraulic erection arm and the missile carriage. All components of this device must be cut at locations that are not assembly joints. Mountings and

leveling supports will also be removed from the transporter chassis and cut as above. Additionally, at least 0.78 meters must be cut off the chassis. As a result of these procedures, all launch-critical equipment is permanently destroyed and the structural integrity of the remaining transporter for erecting its missile is destroyed. (This altered transporter can be used for other purposes.) US inspectors may observe each step described. The vehicle used to transport resupply missiles and load them onto launchers will also be destroyed, as will simulator missiles and launchers used in training.

The Soviets may, for destruction purposes, launch up to 100 SS-20s in the first six months. The US is allowed to inspect each missile prior to launch and the Soviets are prohibited from telemetering test information on these flights. However, because such launchings provide information on missile performance regardless of telemetry, the US insisted on the six-month restriction and the quota. Our objective was to start the clock ticking towards the SS-20's obsolescence as soon as possible.

Conclusions

Let me now turn to our conclusions.

How then, does INF Treaty verification stack up against our goals for effective verification?

Deter violation

The verification measures negotiated for this Treaty pose significant risks for the Soviets of US detection, and impose

considerable complexity on the Soviets should they seek to violate it to acquire a useful covert force. A Soviet "deception planner" would be expected to adopt a conservative view of his ability to escape US detection of such a violation. He would not know fully and precisely US monitoring capabilities, and he would place a high premium on avoiding accidents and security slips that could result in inadvertent exposure. Thus, to the extent that the Soviets are averse to having their noncompliant behavior exposed, the Treaty's verification goes a long way in deterring violations.

Making the Soviets more averse to being judged guilty of a violation is a goal of US compliance policy. The Soviets must know that they will pay a real price for noncompliance. However, the political will to extract such a price from the Soviets cannot be legislated or negotiated in advance. Nor are there institutional procedures or innovations that can guarantee resolve. The US terminated its political commitment to the SALT I Interim Agreement and the SALT II Treaty largely in response to Soviet violations.

Create Confidence in the Agreement

The stringent verification measures we have negotiated are sure to help foster confidence in this agreement. This confidence will grow over time as the effects of the flight test ban and NTM surveillance seriously erode the capability of the Soviets to possess militarily significant INF forces.

Allow Timely Detection

In general, the more significant the violation, the greater the risk of detection by the US, and the more difficult for the Soviets to achieve without detection. For example, it would be much more difficult for the Soviets to maintain a high alert, ready, reliable covert force than an un-exercised, covert stockpile of INF weapons of questionable reliability. In this regard, the double global zero offers inherent verification advantages:

- First, after the elimination period, all launch-critical INF infrastructure will be destroyed and no INF infrastructure (e.g., bases, manufacturing, storage facilities etc.) may be used to conceal or support INF systems.
- Second, the immediate ban on flight testing of INF systems will make it difficult over time to retain a covert force that can be made operationally useful.
- Third, after the reduction phase is complete, the verification task will be solely to detect (not count) mobile INF systems -- a still demanding but less complicated task.

Thus, over time, and without any flight testing, we judge it will be increasingly difficult for the Soviets to hide a covert force that can be made operationally useful.

Effective, Despite Uncertainties

Despite the rigor of the INF verification regime, there will be unavoidable uncertainties and ambiguities. For example, we cannot be highly confident in the completeness of the Soviet baseline declarations, and evidence of future Soviet activity may be ambiguous with respect to verifying say, the production ban. But there is no such thing as perfect verification, especially in a Treaty involving mobile and sometimes small weapons possessed by a party with a record of noncompliance and whose territory encompasses eleven time zones and eight million square miles.

Despite these uncertainties, I believe that the verification regime negotiated for INF will be effective in permitting us to achieve the considerable benefits offered by the Treaty.